

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

 CLAIMS

[Claim(s)]

[Claim 1] In the consciousness formula eye examination equipment which carries out polymerization arrangement of two or more optical elements into the visual field aperture of a lens room on either side, and measures the refractive power examined the eyes in consciousness to each of the lens room of the aforementioned right and left Two or more turret boards and the 1st REKOSU board holding the optical element used for assistance of an eye examination, It has two cylinder lenses with a reverse sign with an equal absolute value held free [rotation] on the measuring beam shaft. two or more aforementioned turret boards of each It has a maximum of eight openings which can hold the spherical lens of OD of at least one sheet or one opening, and spherical lens. one of two or more aforementioned turret boards Consciousness formula eye examination equipment characterized by holding the spherical lens of OD of at least one sheet or one opening, and two or more spherical lenses of 0.125D interval.

[Claim 2] One of two or more aforementioned turret boards is consciousness formula eye examination equipment according to claim 1 characterized by holding at least one spherical lens of OD or one opening, and two or more spherical lenses of 1D interval.

[Claim 3] Two or more aforementioned turret boards At least one spherical lens of OD, or one opening. The 1st turret board holding two or more spherical lenses of 8D intervals, at least one spherical lens of OD, or one opening. Consciousness formula eye examination equipment according to claim 1 or 2 characterized by being the 3rd turret board holding the 2nd turret board holding two or more spherical lenses of 1D interval and at least one spherical lens of OD or one opening, and two or more spherical lenses of 0.125D interval.

[Claim 4] The REKOSU board of the above 1st is consciousness formula eye examination equipment according to claim 1 to 3 characterized by holding one spherical lens of OD or one opening, the shield for visual field cover, 45-degree polarizing plate, 135-degree polarizing plate, red Murdock SURENZU, red / green filter, a pinhole, and 6 prism / 10 prism.

[Claim 5] Consciousness formula eye examination equipment according to claim 1 to 4 characterized by equipping each of the lens room of the aforementioned right and left with the 2nd REKOSU board holding a spherical lens or one opening, and at least one the rotary prism and autocross lens of OD.

[Claim 6] Consciousness formula eye examination equipment according to claim 5 characterized by enabling attachment and detachment of the REKOSU board of the above 2nd to the lens room of the aforementioned right and left.

 [Translation done.]

THIS PAGE BLANK (USPTO)

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the consciousness formula optometry equipment which has the feature especially in arrangement of an optical element about the consciousness formula optometry equipment which arranges two or more optical elements and measures the refractive power examined the eyes subjective in the visual field aperture of a lens room on either side.

[0002]

[Description of the Prior Art] Two or more lenses as consciousness formula optometry equipment which measures the refractive power examined the eyes subjective, It arranges possible [rotation] to the lens interior of a room of right and left of two or more maintenance boards which have a shield for prism or visual field cover etc. (the optical element for using for optometry examined the eyes, such as a lens, prism, and a shield, is named a "optical element" generically if needed below). What arranges arbitrary optical elements in piles in the visual field aperture of each lens room is proposed by rotating each maintenance board. The method which combines two cylinder lenses with a reverse sign with an almost equal absolute value, and the method which changes an astigmatism lens on an optical axis, arranges possible [rotation], and does not need a spherical-surface amendment as indicated by ***** 9-505209 were proposed as indicated by JP,64-32838,A by this applicant as a generation method of the astigmatism frequency in such consciousness formula optometry equipment. Among these, the top which may have little number of sheets of an astigmatism lens, since there is no complicated astigmatism lens change rolling mechanism, and it is advantageous in cost, promising ** of the method which generates astigmatism frequency combining the former cylinder lens is carried out.

[0003] Arrangement of the optical element of each lens interior of a room in the consciousness formula optometry equipment which adopted the method which generates astigmatism frequency combining this cylinder lens is shown in drawing 5. As shown in this drawing 5, in conventional consciousness formula optometry equipment, the 1st turret board, the 2nd turret board, the 1st REKOSU board, the rotary cylinder of two sheets, and the 2nd REKOSU board were arranged one by one in each lens room. And opening of 12 was prepared in the 1st turret board, the 2nd turret board, and each 1st REKOSU board, and six openings were prepared in the 2nd REKOSU board. And the spherical lens was mainly held in opening of the 1st and 2nd turret boards, and the optical element used for assistance of optometry in opening of the 1st and 2nd REKOSU boards was held (in addition, although a REKOSU board is a disk which is constituted like a turret board and which can be rotated, it differs in that the optical element used for assistance of optometry is held.). It is below the same.

[0004] As such consciousness formula optometry is shown in drawing 5, to the 1st turret board Two or more spherical lenses of 3D interval, The spherical lens of -10D and the spherical lens of +10D are arranged to the 2nd turret board at two or more spherical lenses of 0.25D interval, and the 2nd REKOSU board, respectively. Required lens frequency was generated by combining these suitably (in the case of drawing 5, generation of lens frequency is possible in the range of -29D - +26.875D, namely, the measuring range of the number SPH of spherical degrees is -29D - +26.875D).

[0005] Moreover, conventionally, from two reasons, as shown in drawing 5, the spherical lens of +0.125D was arranged to the 1st and 2nd REKOSU boards. The 1st reason is for tuning the number of spherical degrees finely. Moreover, the 2nd reason is that there is amendment need about the spherical-surface component of lens frequency by using the spherical lens of the half of the astigmatism frequency which it is going to generate when adopting the method which generates astigmatism frequency combining a cylinder lens. Generally, since the minimum frequency of astigmatism frequency is +0.25D, the spherical lens of +0.125D of the half has been prepared in the spherical-surface component amendment here. In addition, the spherical lens of +0.125D is arranged to both the 1st and 2nd REKOSU boards, because combined use of the spherical lens of this +0.125D and other lenses arranged at the 1st and 2nd REKOSU boards is enabled.

[0006]

[Problem(s) to be Solved by the Invention] However, in such conventional consciousness formula optometry equipment, since the lens frequency of the predetermined range was generated using the spherical lens of 3D interval, and two or more spherical lenses of 0.25D interval, as shown in drawing 5, the spherical lens of 11 sheets needs to be arranged to each the 1st and 2nd turret boards, and it had become the cause in which this bars the miniaturization of each turret board. Moreover, since it overlapped and the spherical lens of +0.125D was prepared in the 1st and 2nd REKOSU boards as mentioned above, it had become the cause which bars the miniaturization of the 1st and 2nd REKOSU boards too.

[0007] And since neither a turret board nor a REKOSU board was able to be miniaturized in this way, it had become the cause by which the path of the whole lens room became large, and it became difficult for a ** person to observe the expression of the subject, or a feeling of oppression was given to the subject. Therefore, numbers, such as a lens arranged to a turret board or a REKOSU board, were reduced, and the consciousness formula optometry equipment which can miniaturize a lens was demanded.

[0008] It was not desirable in cost to have overlapped and to have prepared the spherical lens of +0.125D in the 1st and 2nd REKOSU boards still as mentioned above. Moreover, although the ** person who does not perform prism measurement of **** measurement etc. also existed and rotary prism was unnecessary to such a ** person, since this rotary prism was arranged at the 2nd REKOSU board with the lens of -10D, the lens of +10D, and the spherical lens of +0.125D, it was difficult to omit. Therefore, duplication arrangement of the spherical lens of +0.125D was canceled, and the ellipsis of an unnecessary lens etc. was enabled easily, and the consciousness formula optometry equipment which can attain reduction-

ization of cost was demanded.

[0009] this invention was made in view of such a trouble in conventional consciousness formula optometry equipment, and aims at offering the consciousness formula optometry equipment which is what minor-diameter-izes a lens room, and can plan cost reduction by enabling an ellipsis of an unnecessary lens etc.

[0010]

[Means for Solving the Problem] In order to solve the trouble in such conventional consciousness formula optometry equipment this invention according to claim 1 In the consciousness formula optometry equipment which carries out polymerization arrangement of two or more optical elements into the visual field aperture of a lens room on either side, and measures the refractive power examined the eyes subjective to each of the lens room of the aforementioned right and left Two or more turret boards and the 1st REKOSU board holding the optical element used for assistance of optometry, It has two cylinder lenses with a reverse sign with an equal absolute value held free [rotation] on the measuring beam shaft. two or more aforementioned turret boards of each It has a maximum of eight openings which can hold the spherical lens of OD of at least one sheet or one opening, and spherical lens. one of two or more aforementioned turret boards It constitutes holding the spherical lens of OD of at least one sheet or one opening, and two or more spherical lenses of 0.125D interval as a feature.

[0011] Moreover, this invention according to claim 2 is constituted in this invention according to claim 1 considering one of two or more aforementioned turret boards holding at least one spherical lens of OD or one opening, and two or more spherical lenses of 1D interval as a feature.

[0012] this invention according to claim 3 is set to this invention according to claim 1 or 2. moreover, two or more aforementioned turret boards The 1st turret board holding at least one spherical lens of OD or one opening, and two or more spherical lenses of 8D intervals, at least one spherical lens of OD, or one opening, It constitutes as a feature that it is the 3rd turret board holding the 2nd turret board holding two or more spherical lenses of 1D interval and at least one spherical lens of OD or one opening, and two or more spherical lenses of 0.125D interval.

[0013] Moreover, the REKOSU board of the above 1st is constituted considering this invention according to claim 4 holding one spherical lens of OD or one opening, the shield for visual field cover, 45-degree polarizing plate, 135-degree polarizing plate, red Murdock SURENZU, red / green filter, a pinhole, and 6 prism / 10 prism in this invention according to claim 1 to 3 as a feature.

[0014] Moreover, this invention according to claim 5 is constituted in this invention according to claim 1 to 4 considering equipping each of the lens room of the aforementioned right and left with the 2nd REKOSU board holding a spherical lens or one opening, and at least one the rotary prism and autocross lens of OD as a feature.

[0015] Moreover, this invention according to claim 6 is constituted in this invention according to claim 5 considering enabling attachment and detachment of the REKOSU board of the above 2nd to the lens room of the aforementioned right and left as a feature.

[0016]

[Embodiments of the Invention] Hereafter, 1 operation gestalt of this invention is explained in detail with reference to a drawing. Drawing and drawing 2 which drawing 1 is the side elevation of the optometry equipment in this operation gestalt, and fracture and show the part are drawing showing arrangement of the optical element of optometry equipment [in / this operation gestalt / the front view of the whole optometry equipment, and drawing 3 , and / in drawing 4] in the front view of the 1st turret board 10.

[0017] As shown in drawing 2 , optometry equipment connects the lens rooms 1 and 2 on either side and the control panel which is not illustrated in code 3, and is constituted. The visual field aperture 4 is formed in each lens rooms 1 and 2, the ** table which carried out predetermined distance partition ***** from this optometry equipment and which is not illustrated is shown as the subject through the optical element arranged in piles in the visual field aperture 4, and the refractive power examined the eyes etc. is measured by a ** table most often selecting a visible-ray study element etc. The lens rooms 1 and 2 on either side are making object structure mutually, and explain only one lens room 1 (it only considers as "the lens room 1" hereafter) to it in an operation gestalt here below.

[0018] As shown in drawing 1 , the rotary cylinder lenses 50 and 51 of (Sign E shows optometry-ed), the 1st turret board 10, the 2nd turret board 20, the 3rd turret board 30, and the 1st 40 or 2 REKOSU boards and the 2nd REKOSU board 60 are installed in the lens room 1 side by side by the order near the subject. among these, the 1- two or more openings of each other are prepared in the periphery of the 3rd turret board 10-30, the 1st, and 2nd REKOSU boards 40 and 60 at the equal interval, and various optical elements etc. are held in each opening these the 1- rotation of the 3rd turret board 10-30, the 1st, and 2nd REKOSU boards 40 and 60 is enabled focusing on the axis of rotation 5, and arbitrary optical elements are arranged in the visual field aperture 4 among the optical elements which are alike, respectively and are held by this rotation

[0019] Moreover, it is fixed free [rotation] on the optical axis, and two rotary cylinder lenses 50 and 51 constitute the so-called cross cylinder of a Stokes from both while an absolute value has the frequency (it sets in this operation gestalt and they are -3.5D and +3.5D) from which positive/negative differs equally and is mutually held by frames 6 and 7, respectively. these the 1- the rolling mechanism of the 3rd turret board 10-30, the 1st, the 2nd REKOSU board 40 and 60, and the rotary cylinder lenses 50 and 51 and its control are the same as that of what is indicated by JP,8-66361,A by this applicant, and when a ** person operates a motor without the illustration arranged to each side through a control panel, they are performed

[0020] Next, the optical element arranged at each turret board is explained in detail. As the 1st turret board 10 mainly holds the spherical lens of strong lens frequency comparatively and shows it to drawing 3 , eight openings 11 are formed in the periphery. And as shown in drawing 4 , two openings 11 are wide opened for visual field opening, and constitute "opening" 12 ("opening" 12 can be constituted even if it, in addition, puts the spherical lens of OD into opening 11), and six spherical lenses 13 of 8D intervals from "-24D" to "+24D" are held at other six openings.

[0021] Moreover, the 2nd turret board 20 mainly holds the spherical lens of the lens frequency of the degree of inside comparatively, and eight openings 11 without illustration are formed in the periphery. And as shown in drawing 4 , one opening is wide opened for visual field opening, and constitutes "opening", and seven spherical lenses of 1D interval from "-4D" to "+3D" are held at other seven openings.

[0022] The 3rd turret board 30 mainly holds the spherical lens of the lens frequency of comparatively weak degree, and eight openings without illustration are formed in the periphery. And as shown in drawing 4 , one opening is wide opened for

visual field opening, and constitutes "opening", and seven spherical lenses of the "0.125D" interval from "-0.375D" to "+0.5D" are held at other seven openings.

[0023] The 1st REKOSU board 40 mainly holds the optical element used for assistance of optometry, and eight openings without illustration are formed in the periphery. And as shown in drawing 4, one opening is wide opened for visual field opening, and constitutes "opening," "45-degree polarizing plate" corresponding to the polarization chart for the "gobo" binocular visions for the visual field cover to other seven openings, "Red Murdock SURENZU" similarly used for "135-degree polarizing plate" corresponding to the polarization chart for binocular visions, a phoria test, etc., "the red / green filter" used for **** or multiple-vision inspection, and the "pinhole" for extracting and exploring the standard of corrected eyesight according to an effect -- "6U prism lens / 10I prism lens" (it is the diopter UP direction, "I" is the diopter IN direction, and "U" is below the same) used for multiple-vision inspection are held, respectively.

[0024] Moreover, the 2nd REKOSU board 60 mainly holds the optical element used for assistance of optometry like the 1st REKOSU board 40, and three openings without illustration are formed in the periphery. And as shown in drawing 4, one opening is wide opened for visual field opening, and constitutes "opening", and "rotary prism" and the "autocross lens" are held at other two openings, respectively.

[0025] Next, the difference with arrangement of the optical element in this optometry equipment and arrangement of the optical element in conventional optometry equipment is explained. Generation of the lens frequency of the range of -29D - +26.875D was [in / conventional optometry equipment / about a spherical lens] possible as mentioned above first. It arranges to three maintenance boards of the 3rd turret board 10-30. on the other hand, this optometry equipment -- setting -- above -- a spherical lens -- the 1- Generation of the lens frequency of the range of -28.375D - +27.5D is possible from these (" -24D" + " -4D" + " -0.375D" = " -28.375D" " +24D" + " +3D" + " +0.5D" = " +27.5D").

[0026] That is, in this optometry equipment, generation of conventional optometry equipment and the lens frequency of the measurement which exceeds conventional optometry equipment to an of-the-same-grade and plus side is almost possible to a minus side. although it is necessary to arrange the spherical lens of no less than 11 sheets from arrangement of the aforementioned lens to each turret board in this conventional optometry equipment on the other hand -- this optometry equipment -- setting -- the 1- the highest should just also arrange the spherical lens of seven sheets to the 3rd turret board 10-30 Therefore, it becomes unnecessary to arrange the spherical lens for the four differences, and the turret boards 10-30 can be minor-diameter-ized.

[0027] Moreover, to the 3rd turret board 30, since the spherical lens of 0.125 intervals is arranged, this spherical lens can rectify the spherical-surface component to fine tuning of frequency, and astigmatism frequency. Moreover, it is not necessary to prepare the spherical lens of 0.125D in the 1st and 2nd REKOSU boards 40 and 60 from this. Therefore, since it overlaps and it is not necessary to arrange the spherical lens of 0.125D like before, minor-diameter-izing and cost-reduction-izing of the 1st and the 2nd of the REKOSU boards 40 and 60 can be attained. Moreover, since the spherical lens of -10D, +10D, and 0.125D is not prepared in the 2nd REKOSU board 60 unlike the former, it is convenient, even if "rotary prism" and an "autocross lens" omit the 2nd REKOSU board 60, in being unnecessary. Therefore, the 2nd REKOSU board 60 can carry out carrying out option equipment only at the time of a user's hope etc., can be omitted fundamentally, and can attain reduction-ization of cost. Moreover, since attachment and detachment are made free by the structure of the common knowledge which the 2nd REKOSU board 60 does not illustrate in this optometry equipment to the lens room Manufacture etc. can do easily the optometry equipment equipped with the 2nd REKOSU board 60, and the optometry equipment which omitted the 2nd REKOSU board 60 only in attachment and detachment of the 2nd REKOSU board 60, communalization of a manufacturing process etc. can be attained, and reduction-ization of a manufacturing cost etc. can be attained.

[0028] Next, the difference with the optical element arranged to the 1st of this optometry equipment and the 2nd REKOSU board 40 and 60 and the optical element arranged to the REKOSU board of conventional optometry equipment is explained. Although the optical element arranged to the 1st of this optometry equipment or the 2nd REKOSU board 40 and 60 is as above-mentioned, that for which the optical element of a turret board can be substituted among the optical elements arranged at the 1st of conventional optometry equipment or the 2nd REKOSU board is omitted, and minor-diameter-izing and cost-reduction-izing of a REKOSU board are attained here.

[0029] it is first shown in drawing 4 -- as -- "opening", a "shield", a "pinhole", "45-degree polarizing plate", "135-degree polarizing plate", "red Murdock SURENZU", and "red / green filter" -- the 1- since the optical element of the 3rd turret board 10-30 cannot be substituted, it is arranged at the 1st REKOSU board 40, without being omitted also in this optometry equipment

[0030] Moreover, as shown in drawing 4, "6**BU/10**BI" is arranged at the 1st REKOSU board 40. Although it is also possible to substitute the rotary prism of the 2nd REKOSU board 60 for "6**BU/10**BI", the range of this of prism measurement decreases in this case. Namely, by constituting rotary prism in piles in two lenses of 10**, although prism measurement is possible, if rotary prism substitutes 10**BI of an attachment lens in the range of 0 - 20**, for example, the measuring range of the BI direction will be set to 0-10**BI. When rotary prism is omitted, it will become impossible moreover, to also use 6**BU/10**BI of an attachment lens. In order to avoid these, it arranges without omitting "6**BU/10**BI." In addition, as long as it prepares the margin in the range of prism measurement of rotary prism beforehand, you may omit "6**BU/10**BI."

[0031] Next, in the optometry equipment of the conventional manual system, "the lens for retinoscope" was arranged to the 1st or 2nd REKOSU board. Although it is generally the lens of +1.5D or +2.0D and is used in the case of the optometry using the retinoscope, since the degree lens of inside and a weak degree lens can generate the lens of +1.5D easily in the optometry equipment of an electric formula like this operation gestalt and the degree lens of inside can substitute the lens of +2.0D, this "lens for retinoscope" is omitted.

[0032] Moreover, conventionally, "45-degree polarizing plate +0.125D" and "135-degree polarizing plate +0.125D" were arranged to the 1st REKOSU board. Although this had prepared this also in the 2nd REKOSU board in the astigmatism frequency generate time as mentioned above since the spherical lens of 0.125D was required, since it becomes impossible to use the spherical lens of 0.125D when using other optical elements of the 2nd REKOSU board, the spherical-lens frequency of 0.125D has been added to the polarizing plate used for the final indorsement of the number of spherical degrees. However, in this optometry equipment, as mentioned above, since it is always generable, it is not necessary to add the spherical-lens frequency of 0.125D for the spherical lens of 0.125D to a polarizing plate with the 3rd turret board 30. Therefore, in this optometry equipment, "45-degree polarizing plate +0.125D" and "135-degree polarizing plate +0.125D"

are omitted.

[0033] Moreover, conventionally, although there was a case where "white Murdock SURENZU" which made "red Murdock SURENZU" transparent was arranged, since there is also much consciousness formula eye examination equipment which it is seldom used and is not equipped, this "white Murdock SURENZU" is omitted also in this eye examination equipment.

[0034] Moreover, there was a case where "the cross-cylinder lens for presbyopias" was arranged conventionally. This "cross-cylinder lens for presbyopias" is a cross-cylinder lens of $\pm 0.5D$, uses together the cross-joint target for **, and conducts presbyopia inspection. however, the astigmatism frequency of this "cross-cylinder lens for presbyopias" -- the rotary cylinder lenses 50 and 51 and the 1- it is generable by the spherical lens of the 3rd turret board 10-30 Moreover, since "the cross-cylinder lens for presbyopias" is not used only at the time of presbyopia measurement and is not used at the time of an astigmatism, even if it generates in the rotary cylinder lens 50 and 51 grades, there is no possibility of narrowing the astigmatism range. Therefore, in this optometry equipment, the "cross-cylinder lens for presbyopias" ellipsis is carried out.

[0035] Furthermore, the "cross line" is omitted. In case this "cross line" measures the pupillary distance examined the eyes, it is used, and it adjusts the alignment state of the direction of four directions of a lens room over optometry-ed by moving a lens room so that this cross line may be suited focusing on the pupil examined the eyes. The alignment state of the direction of four directions of a lens room over this optometry-ed can be adjusted because a ** person observes optometry-ed through the visual field aperture of a lens room. That is, since a ** person should just check visually that optometry-ed is located in the outline center position of the four directions of a visual field aperture, the "cross line" is omitted with this optometry equipment.

[0036] Moreover, in conventional optometry equipment, "S+0.125D", "S+10D", and "S-10D" were prepared as mentioned above. since he wants to use together the lens of however, these S+0.125D, "S+10D", and "S-10D" with the optical element for other optometry assistance arranged to the REKOSU boards 40 and 60 -- the 1- the spherical lens of the 3rd turret board 10-30 is substituted Therefore, in this optometry equipment, the lens of these "S+0.125D", "S+10D", and "S-10D" is omitted, and is.

[0037] Thus, as a result of reducing the optical element arranged to the REKOSU boards 40 and 60, -izing of the REKOSU boards 40 and 60 can be carried out [minor diameter]. Moreover, since the path of the REKOSU boards 40 and 60 was made to correspond to the path of the turret boards 10-30, all of the path of these turret boards 10-30 and the REKOSU boards 40 and 60 can be made smaller than before, and the whole lens room can be made small.

[0038]

[Effect of the Invention] As described above, this invention according to claim 1 to 3 Two or more turret [each / of a lens room on either side] board, and the 1st REKOSU board holding the optical element used for assistance of optometry, It has two cylinder lenses with a reverse sign with an equal absolute value held free [rotation] on the measuring beam shaft. two or more turret boards of each It has a maximum of eight openings which can hold the spherical lens of 0D of at least one sheet or one opening, and spherical lens. one of two or more turret boards By holding the spherical lens of 0D of at least one sheet or one opening, and two or more spherical lenses of 0.125D interval etc., the lens number of sheets arranged to each turret board can be reduced maintaining the almost same measuring range as usual, and a turret board can be minor-diameter-ized. Therefore, a lens room can be made small, and the feeling of oppression given to the subject can be made small, and a ** person can observe the situation of the subject easily. Moreover, since the spherical lens of 0.125 intervals is arranged to the 3rd turret board, it is not necessary to prepare the spherical lens of 0.125D in a REKOSU board. Therefore, since it overlaps and it is not necessary to arrange the spherical lens of 0.125D like before, minor-diameter-izing and cost-reduction-izing of the 1st and the 2nd of a REKOSU board can be attained.

[0039] Furthermore, this invention of a publication to claims 4 and 5 the 1st REKOSU board By holding one spherical lens of 0D or one opening, the shield for visual field cover, 45-degree polarizing plate, 135-degree polarizing plate, red Murdock SURENZU, red / green filter, a pinhole, and 6 prism / 10 prism etc. Only the indispensable optical element for which the optical element held with the turret board etc. cannot be substituted can be arranged to a REKOSU board, and a REKOSU board can be minor-diameter-ized. Moreover, the path of a REKOSU board can be made to be able to respond to the path of a turret board, all the paths of these turret board and a REKOSU board can be made smaller than before, and the miniaturization of the whole lens room can be attained.

[0040] And by enabling attachment and detachment of the 2nd REKOSU board to a lens room on either side, manufacture etc. can do easily the optometry equipment which omitted the optometry equipment and the 2nd REKOSU board equipped with the 2nd REKOSU board only in attachment and detachment of the 2nd REKOSU board, and this invention according to claim 6 can attain communalization of a manufacturing process etc., and can attain reduction-ization of a manufacturing cost etc.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

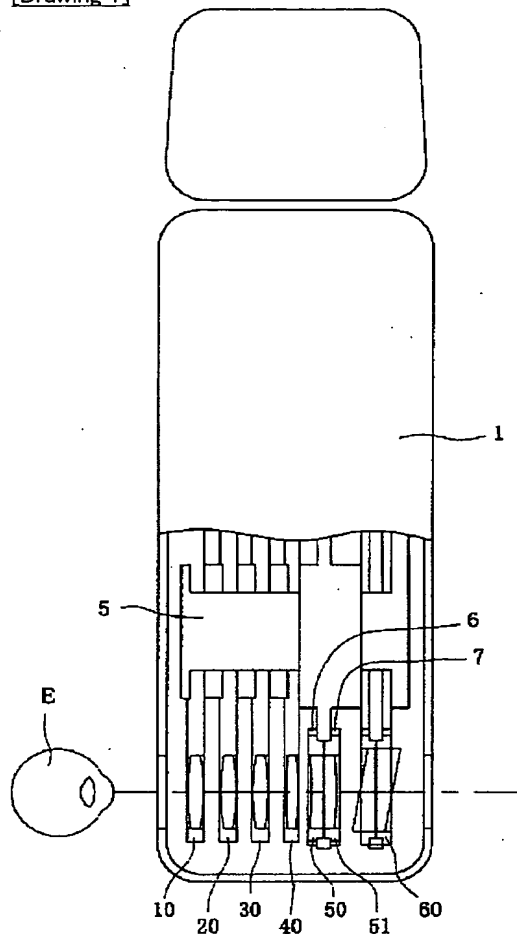
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

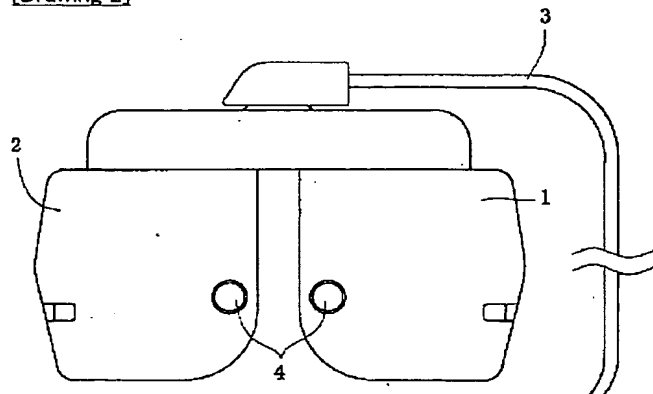
3.In the drawings, any words are not translated.

DRAWINGS

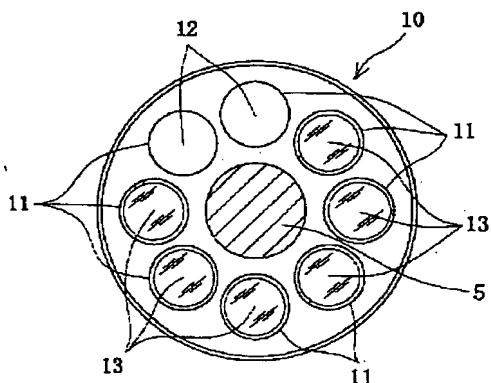
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Drawing 4]

	レンズ構成							
	1	2	3	4	5	6	7	8
第1のチーレット板10	開口	開口	-24D	-16D	-8D	+8D	+16D	+24D
第2のチーレット板20	開口	-4D	-3D	-2D	-1D	+1D	+2D	+3D
第3のチーレット板30	開口	-0.375D	-0.25D	-0.125D	+0.125D	+0.25D	+0.375D	+0.5D
第1のレンズ板40	開口	遮蔽板	45° 偏光板	135° 偏光板	赤のチーレット板	赤/緑フィルター	ビームスプリッター	8Δ/10Δ
ロータリープリズム 51	ロータリープリズム (Cyl. -3.5D)							
ロータリープリズム 52	ロータリープリズム (Cyl. +3.5D)							
第2のレンズ板80	開口		ロータリープリズム			オートクロスレンズ		

[Drawing 5]

	レンズ構成											
	1	2	3	4	5	6	7	8	9	10	11	12
第1のチーレット板	開口	-18D	-15D	-12D	-8D	-6D	-3D	+3D	+6D	+8D	+12D	+15D
第2のチーレット板	開口	-1D	-0.75	-0.5	-0.25	+0.25	+0.5	+0.75	+1D	+1.25	+1.5	+1.75
第1のレンズ板	開口	開口	遮蔽板	45° 偏光板	135° 偏光板	赤のチーレット板	赤/緑フィルター	ビームスプリッター	8Δ/10Δ	49° 偏光板 +0.125D	135° 偏光板 +0.125D	+0.125D
ロータリープリズム 51	ロータリープリズム (Cyl. -3.5D)											
ロータリープリズム 52	ロータリープリズム (Cyl. +3.5D)											
第2のレンズ板	開口		ロータリープリズム			オートクロスレンズ			+10D		+0.125D	

[Translation done.]